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GPS VEHICLE TRACKER

VT106 USER MANUAL

Preface

Thank you for purchasing the TK106 GPS vehicle tracker. This manual shows how to operate the device smoothly and correctly. Make sure to read this manual carefully before using this product. Please note that specification and information are subject to changes without prior notice in this manual. Any change will be integrated in the latest release. The manufacturer assumes no responsibility for any errors or omissions in this document.

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1 Summary function

Working Based on existing GSM/GPRS network and GPS satellites, this product can locate and monitor any remote targets by SMS or GPRS.

1.1 Positioning and Tracking: through GPRS (on-line web tracking platform) or SMS to locate the targets, get the targets' working status, and showing onto Google map.

1.2 Triggering Emergency Alarm: when there is an emergency or accident happened to the vehicle, driver can put on the SOS button and the GPS unit will send out alarm to the authorized numbers and the monitor center.

1.3 Remote stop/resume oil power supply: you can remotely stop/resume oil power supply circuit by SMS command anywhere and anytime, and further to further stop/resume car.

1.4 Wire-tapping: In anywhere and anytime, call to SIM card number in the GPS unit, you can monitor the listen and see what happen **5** meters around the GPS tracker.
1.5 Movement Alert: Send SMS to the unit to start the movement alert function when car in parking mode. When the vehicle is moving, the unit will send the movement alert to all authorized numbers.

1.6 Over-speed Alert: Send SMS to the unit to start the over-speed alert function. When the vehicle is beyond the speed limit setup, the unit will send the over-speed alert to all authorized numbers.

1.7 Geo-fence: Set up a geo-fence for the unit to restrict its scope within a given range. The unit will send the message to all authorized numbers when it breaches the district.

1.8 Reset: send SMS to resume the default of unit.

1.9 Auto Track: You can set up auto track by SMS or GPRS tracking.

1.10 Mileage statistics: ACC checking, cutting off power and alarm.

1.11 Compatible with the original anti-theft alarm: It will send SMS alarm after the car original anti-theft alarm warning.

1.12 Modify the IP and COM Port of Communication Protocol for different on-line web tracking platform.

2 Application

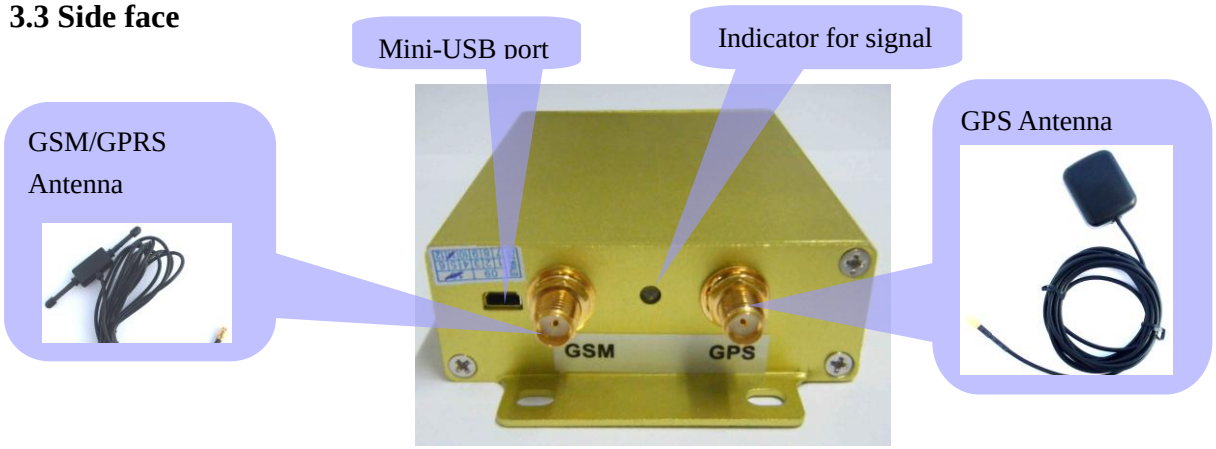
- Car rental business control
- Vehicle fleet management
- Taxi fleet management
- Protect asset etc

3 Hardware Description

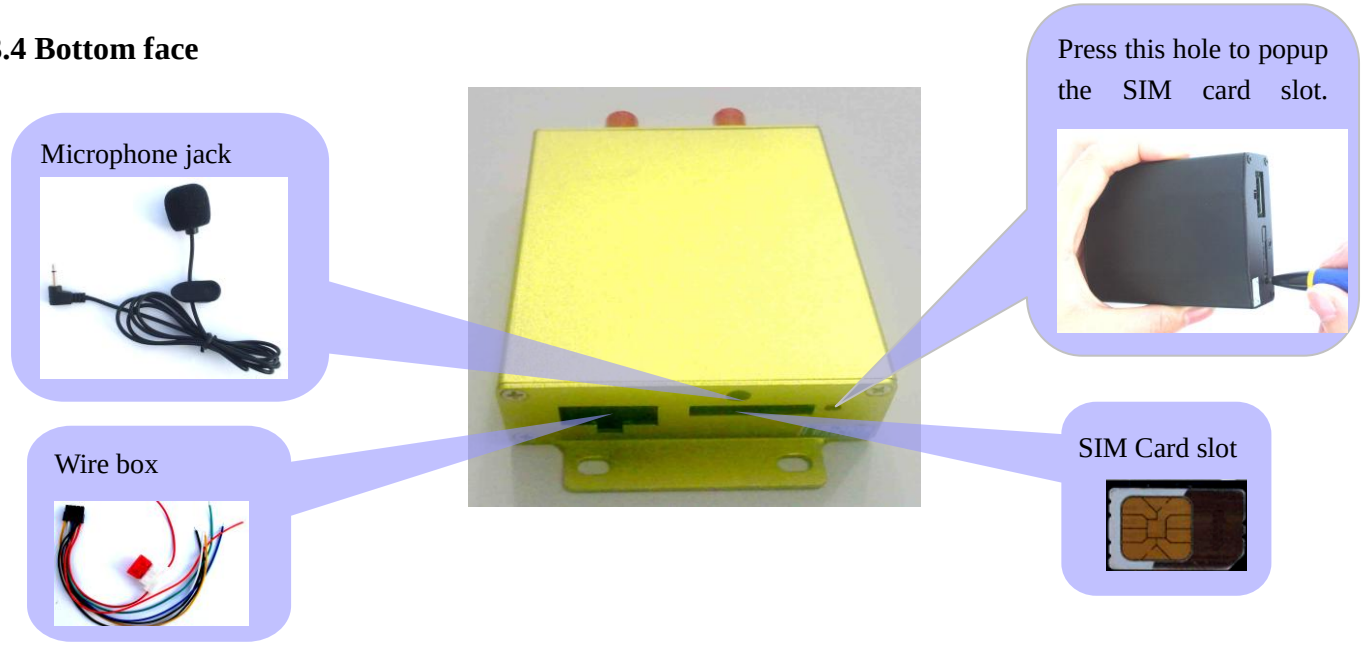
3.1 Front face

3.2 Rear face

3.3 Side face



3.4 Bottom face



4 Specifications

Content	Specs.
Dim.	85mm x 63mm x 25mm(3.3”*2.5”*0.98”)
Weight	160g
Network	GSM/GPRS/GPS
Band	850/900/1800/1900Mhz
GPS chip	SIRF3 chip
GSM/GPRS module	Simcom900B
GPS sensitivity	-159dBm
GPS accuracy	5m
Time To First Fix	Cold status 45s Warm status 35s Hot status 1s
Work voltage	10V—36V
Battery	Chargeable changeable 3.7V 1500mAh Li-ion battery
Standby	48hours
Storage Temp.	-40 ℃ to +85 ℃
Operation Temp.	-20 ℃ to +55 ℃
Humidity	5%--95% non-condensing

5 Usage

5.1 SIM card installation

Make sure that there is no **call transfer** and **caller ID function is on**, and **PIN code** off. The SMS message must in Text format, can't be identified for PDU format.

5.1.1 Put SIM card into SIM card slot.

5.1.2 Put the SIM card into slot as the picture below.

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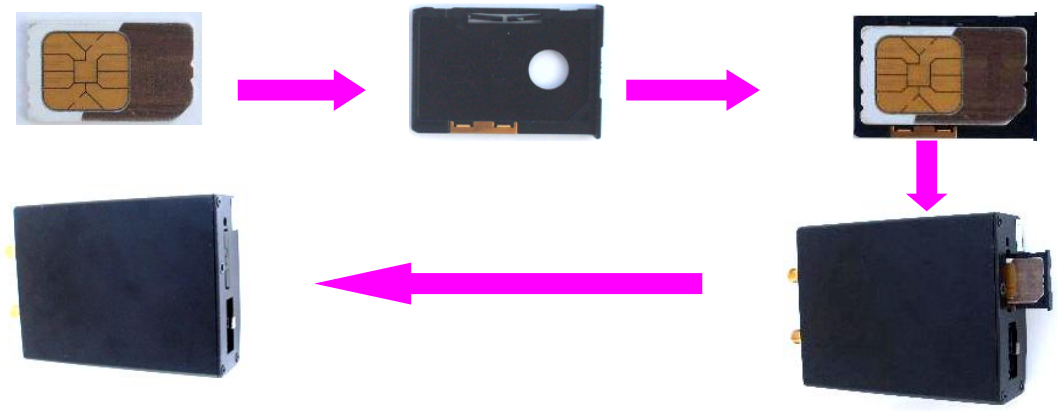
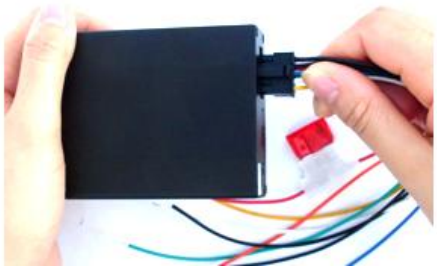


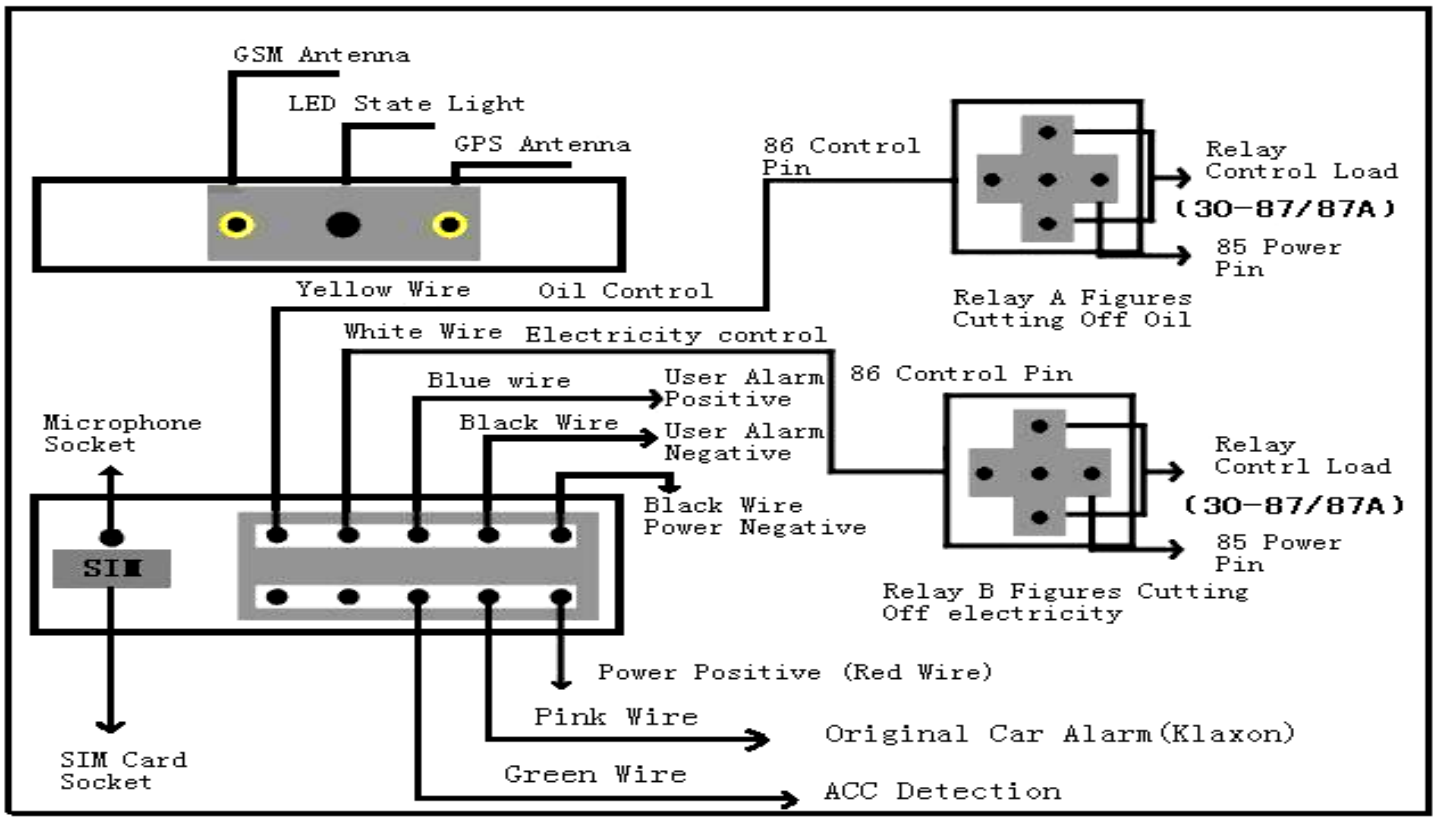
5.2 GPS Vehicle Tracker Installation

GPS/GSM/GPRS tracker should be installed by professional technician. Without permission, the user can't repair and breakup the tracker. Otherwise, warranty policy would be broken and invalid.

5.2.1 Install Wire box

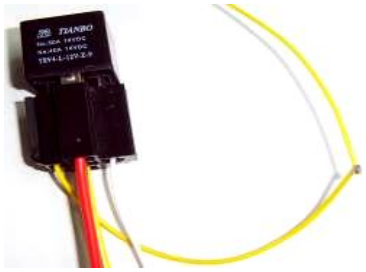


5.2.2 GPS Vehicle Tracker Installation

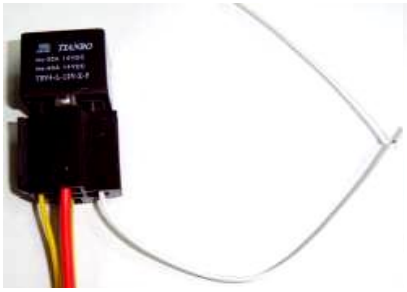


GPS Vehicle Tracker Installation Diagram

Installation steps (caution: the following installation should under no power, otherwise will be dangerous)



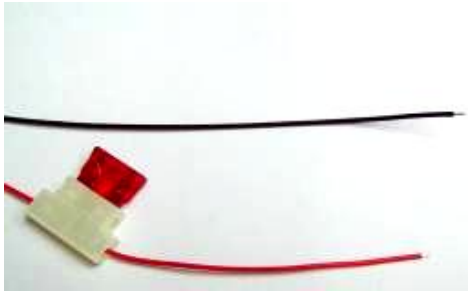
Wire for cutting off oil power supply of the car
Yellow wire connects to the relay feet 86, connect 85 feet to 12 V DC anode, connect 87 feet and 30 feet in series to the oil power supply circuits.



Wire for cutting off oil power supply circuit of the car
White wire connects relay feet 86; 85 feet to 12 V DC anode, 87 feet and 30 feet are in series in the supply power circuits.

Emergency/SOS triggering alarm

The blue wire connects to the anode of the alarm button, and the black wire connects to the cathode of the alarm button.



Power supply line

The red wire connects 12V "+"; Black wire connects to12V "-"

Steps: **1. Open the rear cover, and pick out the battery.**
2. Push the foil along and turn it left.

5.3 Startup

5.3.1 Install the tracker in the car, then put the SIM card into the slot, go outdoors to get GSM network signal.

5.3.2 For first use, please initialize the unit and restore it to default setting.(please refer to 5.4 for instruction.)

5.3.3 In 10 or 40 seconds, the unit will begin to work and acquire the GSM signal as well as the GPS signal, and the red indicator will keep flashing every 2 seconds when the GPS is in standby mode. When the blue indicator is keep blinking, it means the unit has been located.

5.3.4 When unit receives GPS signals normally, you can use it and do all the following settings.
Notice: when SIM card slot insert in, tracker would be in power on mode automatically.

5.4 Restart the tracker.

Send SMS "**reboot+password**" to the tracker. If success, it will reply "system will reboot…", tracker will be restarted. (original password is defaulted as **123456**)

5.5 Initialization

Send "**begin+password**" in text SMS to the unit, it will reply "begin ok" and initialize all the settings. (Default password is 123456)

5.6 Change or resume password

5.6.1 Send SMS **"password+old password+ space +new password"** to change the password.

Remark: Make sure the new password is in 6 digits, or else the tracker can't recognize the password.
5.6.2 you can Send **"resumepassword"** to the tracker, to restore the original setting in case of losing the new password, and it will reply "**resume password,password is123456**".

Remark: Please keep in mind of the new password, because most of the instructions need the password.

5.7 Authorization

There are 5 numbers can be setup as authorized numbers to get location information and monitor the car.

5.7.1 Call the tracker for 10 times, it will make the cell phone number as the authorized number automatically.

5.7.2 Send SMS **"admin+password+space+cell phone number"** to set up an authorized number. The other authorized numbers should be set by the first authorized number. If the number is successfully authorized, the unit will reply "admin ok!" in SMS.

5.7.3 Send SMS **"noadmin+password+ space +authorized number"** to delete the authorized number. If the number is successfully authorized, the unit will reply "no admin ok!" in SMS.

Notice: For roaming purpose, you have to add your country code ahead of the cell phone number, for example, please "send admin123456 008613311113333" to tracker to set 13311113333 as an authorized number.

5.8 Set Time zone

In order to make the time conforming with the user's country time zone, please send SMS command **"zone+password+space +time zone"**. For example, if user country time is GMT+8, then send **"zone123456 +8"**to the device. If user country time is GMT-6, then send**"zone123456 -6"**to device. The device will reply SMS **"set time zone ok"**.

Remark: if time zone is +, in SMS command, + can be neglected.

5.9 Modes switch between "normal tracking" and "wire-tapping"

5.9.1 The default mode is "normal tracking".

5.9.2 Send SMS **"monitor+password"** to the unit, and it will reply "monitor ok!" and switch to "wire-tapping" mode. In this mode, user can dial up to tracker to listen what happen around tracker.

5.9.3 Send SMS **"tracker+password"** to the unit, it will reply "tracker ok!" and restore to "normal track" mode.

5.10 SOS button

5.10.1 Press the SOS for 1 second, it will send "**help me !+GPS coordinates**" to all the authorized numbers every 3 minutes. It will stop sending such a SMS when any authorized number reply SMS "**help me !**" to the tracker.
5.10.2 Send SMS “nosos+password” to tracker, it will reply "nosos ok", after that it will not send alarm info.

5.11 Geo-fence

Set up a geo-fence for the unit to restrict its scope within a given range. The unit will send the alert message to the authorized numbers when it breaches the district.

5.11.1 Run out of the Geo-fence setup: Send SMS **"stockade+password+space+latitude+,+longitude+;+latitude+,+longitude+1”** to tracker to set the Geo fence, if succeed, it will reply **"stockade ok".**

For example, send "stockade123456 22.100000N,113.100000E;22.900000N,113.900000E1” to set up a Geo-fence, when car run out of this range, tracker will alert to authorized telephone or platform.

5.11.2 Run into the Geo-fence setup: Send SMS **"stockade+password+space+latitude+,+longitude+;+latitude+,+longitude+2”** to tracker, if succeed, it will reply **"stockade ok".**

For example: send "stockade123456 22.100000N,113.100000E;22.900000N,113.900000E2" to setup a Geo-fence, when car run into this range, tracker will alert to authorized telephone or platform.

Remark: The first latitude & longitude is coordinate of the top left corner of the Geo-fence, while the second latitude &longitude is the coordinate of the bottom right corner. It will alarm 3 times at 3 minutes time interval.

5.11.3 Cancel: Send SMS **"nostockade+password"** to deactivate this function, it’ll reply "**no stockade ok**".

This function will be out of effect after the unit moves outside the district.

5.12 Movement alert
5.12.1 Set up: When the unit stays immobile in a place for 3 minutes, user can send SMS **"move+password"** to the unit, then the unit will reply “move ok!”. After 10s, if tracker moves over 200m, it will send SMS "Move+GPS coordinates" to the authorized numbers or platform. It will alarm for 3 times every 3 minutes.

5.12.2 Cancel: Send SMS **"nomove+password"** to deactivate the movement alert.

Remark: This function will be out of effect after the unit moves outside the district.

5.13 Over-speed alert:

5.13.1 Set up: Send SMS **"speed+password+ space +080"** to the unit (suppose the speed limit is 80km/h), and it will reply "speed ok!". When the target runs exceeding 80km/h, tracker will send SMS "speed+080!+ GPS coordinates " to the authorized numbers. It will alarm for 3 times every 3 minutes.

5.13.2 Cancel: Send SMS “**nospeed+password”** to deactivate the over-speed alert
Remark: It is recommended that the speed limit is set at no less than 50km/h.

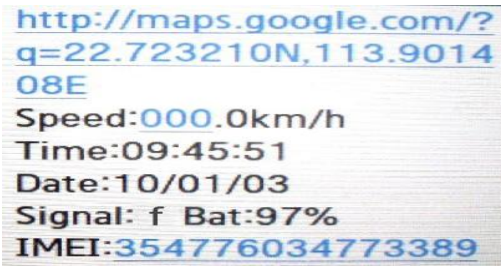
5.14 Low battery alert

It begins to alert when voltage reaches lower than 3.7V and sends you SMS in 30 minutes interval. SMS format "low battery+GPS coordinates".

5.15 Real-time polling

5.15.1 If there is no authorized number, when any number dials up the unit, it will report GPS coordinates. If there is already an authorized number, then it will not respond when an unauthorized number calls it up.

5.15.2 When an authorized number dials up the unit, it will hang up and report real-time GPS coordinates.



5.16 Auto Track by SMS/cellphone

Report GPS coordinates at 30s intervals to the authorized numbers for 15 times:

5.16.1 Set up tracking time intervals: send SMS **"at30sum15 "** to the unit, it will report the GPS coordinates at 30s intervals for 15 times. The setting must be maximum 999999 in value.

5.16.2 Set up constant tracking: send SMS **"at30sum0"** to tracker, it will report GPS coordinates at 30s intervals all the time automatically till user cancel auto track.

5.16.3 Cancel auto track: send **noat+password** to cancel the **"auto track"** by telephone**.**

5.16.4 Send SMS "**telephone+password**" to tracker. If set successfully, tracker will reply "set telephone ok". And then, tracker will send GPS coordinates to your telephone by SMS.

Remarks: 1. the default mode is "telephone/SMS tracking". 2. If lose GPS signal, authorized phone number will get GPS coordinates at 0.

5.17 Auto tracking by GPRS/web-tracking platform

5.17.1 Initialization: send SMS "**begin123456**" to tracker, it will reply "**begin ok**" and initialize all the settings. (default password is 123456).

5.17.2 Set time intervals: send SMS "a**t30sum15**" to the unit, it will report the GPS coordinates at 30s intervals for 15 times. Send "noat+password" to Cancel "auto track ".

Remark: 1.the interval must between 20 and 999999,

2.sum0 is heaps of times (means constantly sending GPS coordinates to platform).

5.17.3 Setup device ID/number to web-tracking platform: send SMS **"number+tracker ID"** to the tracker, it will reply "set number ok". For example, if you want setup your tracker ID against your platform as 20101123001, the SMS should be "number20101123001". Note that tracker ID must be within 11 digits.

5.17.4 Set GPRS/web-tracking mode: Send SMS **"web+password"** to tracker. If set successfully, tracker will reply SMS "**set web ok**". The device will send GPS coordinates to Server/IP address by GPRS.

5.17.5 Set up IP address and port: send SMS " **ip +ip address+port +port number**" to tracker. If setup successfully, tracker will reply SMS "set ip address and port ok". For example, if the platform IP address and port number is 116.255.131.00 and 8500, send SMS **"ip116.255.131.00port8500"**to the tracker.

Cancel: Send SMS **“noadminip+password”**, to cancel the IP address already setup, it means tracker will only send GPS coordinates to user by SMS, not by GPRS anymore.

5.17.6 Set APN:

In order to send GPS data to IP address, you must set mobile network APN (Access Point Name). If you don’t know the APN, you can consult local network service supplier. The format of APN setup SMS is **"apn + password + space + apn name"**. For example the China Mobile APN name is “cmnet”, send SMS **"apn123456 cmnet"** to the device. The device will reply SMS **"Set APN ok. "** .

5.17.7 Set up APN user name and password:
Send SMS "**user+password+Space+apn name+Space+apn password**"to set the APN user name and password. If setup successful, the tracker will reply SMS “set GPRS user and password ok”. For example, in China, we’ll send SMS “**user123456 cmnet cmnet**” to tracker, first **cmnet** stands for APN user name, and second **cmnet** stands for APN password.

As soon as the **IP & Port & APN name& APN user name and password** are set up, tracker will report the GPS coordinates to IP address/Server by GPRS data packet.

5.18 Set Homepage as Advertisement

In order to see your company website in each replying SMS to your clients in advertising purpose, for example you website is www.nn.com, then send "**home+password+ www.nn.com"**, then tracker will reply "set home ok", when you want to cancel it, just send "nohome+password", it will reply SMS "cancel home ok".

5.19 IMEI Checking

Send SMS **"imei+password**" to tracker to check the IMEI number. Tracker will replay back SMS with IMEI number.

5.20 Count mileage

5.20.1 Dials up to tracker, it will report a GPS coordinates of which includes mileage info.

5.20.2 You can sent **"clearmile+password**", if set successfully, it will reply SMS "clearmile GPS coordinates of which includes mileage info ok", the mileage changes to zero.

5.21 Remote control oil and circuit

5.21.1 Control oil

Send SMS **"stopoil+password"** to stop oil supply. For example send SMS:stopoil123456
To resume the oil supply again, send SMS **"supplyoil+password"** to the unit.

5.21.2 Control circuit

Send SMS **"stopelec+password"** to control circuit. For example send SMS: stopelec123456
To resume the circuit again, send SMS **"supplyelec+password"** to the unit.

If there is no authorized telephone number, all the other telephone can control. If there is already an authorized number, only the authorized number can control.

5.22 Alarm frequency setup

The SMS command "alarm+times value" to setup alarm frequency/times.

For example, send SMS **"alarm3"** to tracker, if succeed, tracker will reply "Alarm time ok". Tracker will alarm 3 times to handset (by SMS) or platform (by GPRS) every 3 minutes, then stop when occur alarm. The time value shall be in between 1-999, that is, "alarm1"~~"alarm999" are all effective.

Notice, the interval of alarm is defaulted at 3 minutes.

5.23 Read password

This SMS command **"readpaw"** is to read the password from unit when user forget the password setup.
For example, send SMS **"readpaw"** to tracker, if success, tracker will reply "Password is ******.".

5.24 Get Location in Detailed Street address by SMS (under platform map function)

This SMS command **"fix+password"** is to get detailed street address of location info by SMS.
For example, send SMS **"fix123456"** to tracker, if success, tracker will send back with detailed street address location information.

5.25 Power-lost alert

If cut the connection in between tracker and car battery, tracker will send SMS alert "Cut power Alert+ GPS coordinates" to authorized telephone number or platform.

5.26 Auto Sleeping mode

5.26.1 After car stop for 3 minutes, tracker auto enter into sleeping mode, for power and GPRS fee saving. Car ACC/Engine start would trigger it back to normal working mode.

5.26.2 If tracker can't get GPS located longer than 5 minutes, tracker would auto enter into sleeping mode, so, please don't setup constant tracking time interval longer than 5 minutes = 300 seconds.

6 Cautions

6.1 Make sure to read this manual carefully before using this product.
6.2 Please insert the SIM card before installation, and make sure the SIM card has no password, otherwise the tracker will not work normally.
6.3 The tracker's working voltage is 10V-36V. Please use the tracker in the scope of voltage.
6.4 Please make sure that all the cables of the tracker have been connected rightly, and then connect the tracker to host power from car battery.
6.5 The tracker works in wireless communications, to avoid electromagnetic interference or incompatible configuration, please stop using your tracker in the noticed place.
6.6 Keep the unit dry. Any liquid, i.e. rain, moisture, may destroy or damage the inside circuitry.
6.7 Clear the unit with a piece of dry cloth. Don't clean in chemicals or detergent.
6.8 Don't disassemble or refit the unit.
6.9 Handle carefully. Don't vibrate or shake it violently.
6.10 Don't use & store the unit in dusty places.

7. Trouble Shooting

Faults	Solution
Startup Fail	Check the battery and see if it is fully charged or correctly installed.
Hang up Fail	After a number has been authorized and an unauthorized number calls to device, it will not hang up. Please initialize the device and re-set the authorized numbers.
Monitor Fail	Check if the authorized number is setup or in the coverage of signals.
Location report in digits of zeros.	Don't use it in the place no signals. Place the unit outdoors under open sky, especially when starting it up.

8 SMS Command list

No	FUNCTION	SMS	SMS REPLY	CHAP
1	Restart the tracker	reboot+password (defaulted 123456)	System will reboot…	5.4
2	Initiation	begin+password	begin ok	5.5
3	Change password	password+old password+ space +new password	change password ok	5.6.1
4	Resume password	resume+password	resume password, is password123456	5.6.2
5	Authorize telephone number	admin+password+space+time zone+cell phone number	admin ok	5.7.2
6	Delete number	noadmin+password+ space +authorized number	no admin ok	5.7.3
7	Set time zone	zone+password+space +time zone	set time zone ok	5.8
8	Monitor mode	monitor+password	monitor ok	5.9.2
9	Tracking mode	tracker+password	tracker ok	5.9.3
10	SOS alert		help me!+geo-info	5.10.1
11	Cancel SOS	nosos+password	nosos ok	5.10.2
12	Run Out of Geo-fence	stockade+password+space+latitude+,+longitude+;+latitude+,+longitude+1	stockade ok	5.11.1
13	Run Into Geo-fence	stockade+password+space+latitude+,+longitude+;+latitude+,+longitude+2	stockade ok	5.11.2
14	Cancel geo-fence	nostockade+password	no stockade ok	5.11.3
15	Movement alert	move+password	move ok	5.12.1
16	Cancel movement alert	nomove+password	cancel move ok	5.12.2
17	Over-speed alert	speed+password+space+080	speed ok	5.13.1
18	Cancel over-speed alert	nospeed+password	cancel speed ok	5.13.2
19	Telephone mode	telephone+password	set telephone ok	5.16.3
20	Auto tracking	at30sum0	auto track set ok	5.17.2
21	Cancel auto track	noat123456	cancel auto track ok	5.17.2
22	Add number to platform	number+tracker ID	set number ok	5.17.3
23	Web mode	web+password	set web ok	5.17.4
24	Set IP	ip +ip address+port +port number	set ip address and port ok	5.17.5
25	Set 2nd IP	Available later		

26	Set APN	apn + password + space + apn name	set APN ok	5.17.6
27	Set APN user name and password	user+password+Space+apn name+Space+apn password	Set GPRS user password ok	5.17.7
28	Set homepage as adv.	home+password+ www.nn.com	set home ok	5.18
29	Cancel homepage	nohome+password	Cancel home ok	5.18
30	IMEI checking	imei+password	IMEI no	5.19
29	Count mileage	Dial up to tracker	GPS coordinates +mileage info	5.20.1
30	Clear mileage	clearmile+password	clearmile ok	5.20.2
31	Stop oil	stopoil+password	stopoil ok	5.21.1
32	Supply oil	supplyoil+password	supplyoil ok	5.21.1
33	Stop circuit	stopelec+password	stopelec ok	5.21.2
34	Supply circuit	supplyelec+password	supplyelec ok	5.21.2
35	Alarm frequency	alarm+times value	Alarm number ok	5.22
36	Read password	readpaw	Password is ******	5.23
37	Get address by SMS	Fix123456	Street address	5.24

Remarks:
1.123456 is the original password.
2.Whe first using, please put the device to the outdoor where have strong GPS signal, then begin to track after two minutes.
3.The English capital letter and lowercase letter represent the command, English capital letter is the setting content, please using lowercase letter to edit all commands by telephone.

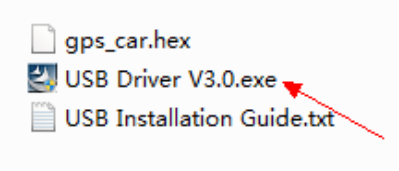
9 Use Configuration tool to setup GPRS

Before install tracker to car/vehicle, please firstly test and configure it at your office. Otherwise, it may cause trouble after installation.

9.1 Put out the SIM card slot in the box, and insert it(without SIM card only slot) into the tracker to trigger power to be on, red indicator would be keeping flash every 2 seconds when GPS module is in standby mode.

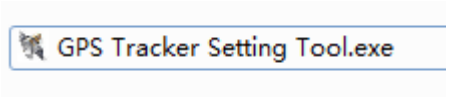
9.2 Connect GPS & GSM antenna, and put antennas out door and under open sky, to get better GPS signal. Once tracker located, blue indicator would keep blinking every second, after that you can make the configuration against your PC/Notebook.

9.3 Connect mini-USB to USB cable to tracker and your PC/Notebook (mini-USB to tracker and USB to your PC/Notebook), open the file <USB Driver V3.0.exe>.



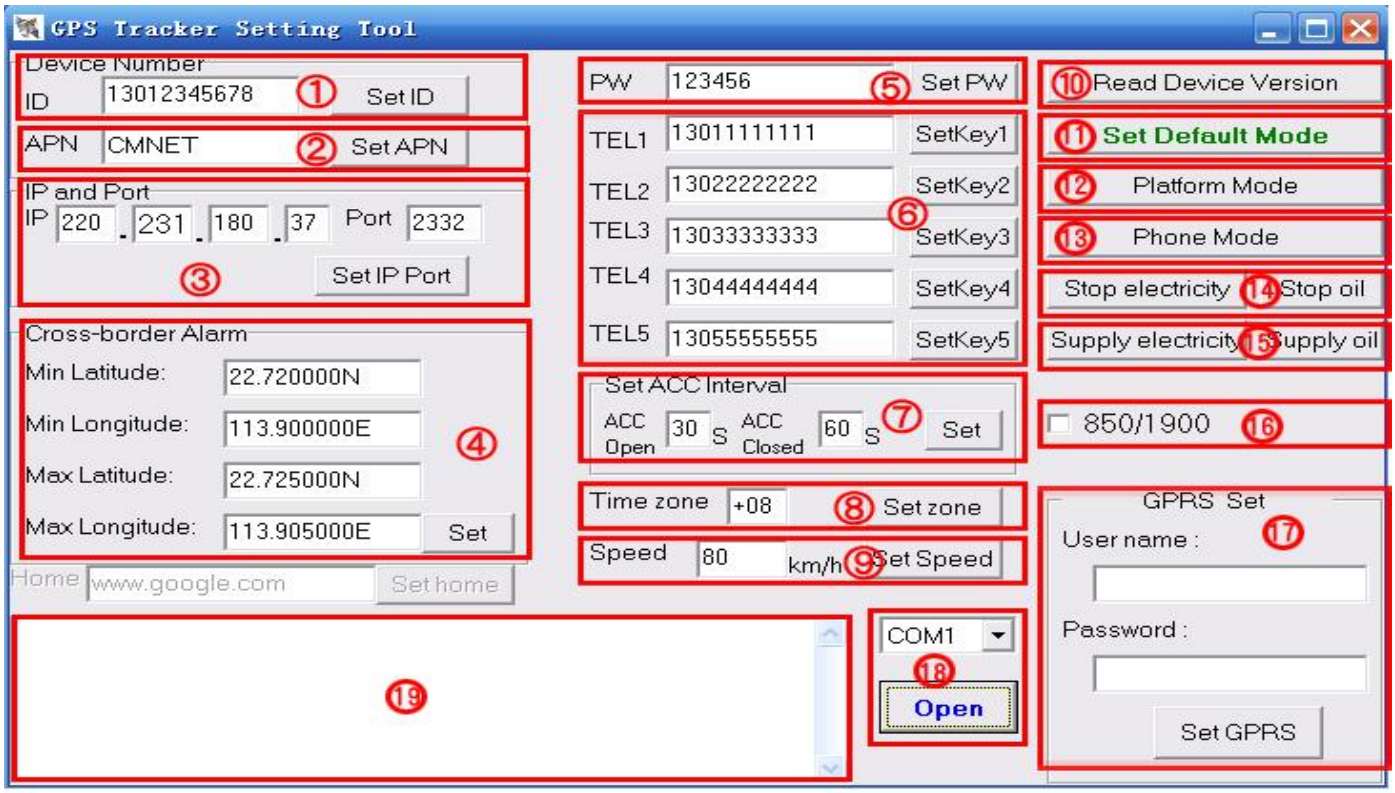
9.4 Find out the right COM Port from the hardware manager of your PC/Notebook.

9.5 Double click <GPS Tracker Setting Tool>



9.6 GPS Tracker Setting Tool window bar chart

Make configuration as the real situation of your web-tracking platform.



1	Device ID 5.17.3		11	Initiation/Reset 5.5
2	APN 5.17.6		12	Web/GPRS mode 5.17.4
3	Set IP/Port 5.17.5		13	Telephone/SMS 5.16.3
4	Geo-fence 5.11		14	Stop oil 5.20
5	Set password 5.6		15	Stop circuit 5.20
6	Authorize telephone number 5.7		16	Bands choice
7	ACC test		17	Setup APN user name & password if necessary 5.17.7
8	Time zone 5.8		18	Choose COM port and press OPEN
9	Over-speed 5.13		19	Data of operate result
10	Read device version			

9.7 You may also follow by the SMS command list to setup by SMS commands.

9.7.1 Get out the SIM card slot, and put your SIM card in. And put the Slot with SIM card into tracker.

9.7.2 Once GPS and GSM signal ready to work, you may try every SMS command to make setup and get GPS coordinates + URL link.